

LISTING OF THE CLAIMS

This listing of claims is provided as a courtesy. No claim amendments are entered at this time.

1. (previously presented) High-temperature solid electrolyte fuel cell comprising an electrolyte layer between two electrode layers obtainable by a process comprising the steps:

(i) applying electrolyte particles in a screen printing paste onto an unsintered electrolyte and sintering the thus produced structure,

(ii) depositing a nano-porous electrode thin layer by a sol-gel-process or an MOD-process on the structure obtained according to step (i) and the thermal treatment of the thus coated structure,

wherein the fuel cell further comprises an electrolyte boundary layer on the structured screen printed electrolyte layer obtained according to step (i), which electrolyte boundary layer is applied by an MOD-process and has a thickness of 100 to 500 nm.

2. (previously presented) High-temperature solid electrolyte fuel cell according to claim 1 wherein an electrolyte of yttrium or scandium doped ZrO_2 is used in step (i).

3. (cancelled).

4. (previously presented) High-temperature solid electrolyte fuel cell according to claim 1 wherein the screen printing paste has a solid content of 10 to 30 wt.-%.

5. (previously presented) High-temperature solid electrolyte fuel cell according to claim 1 wherein the granule size distribution of the powder fraction of the paste is in the range of 5 to 20 μm .

6. (cancelled)

7. (previously presented) High-temperature solid electrolyte fuel cell according to claim 1 wherein a layer comprising strontium doped lanthanum cobaltate (LSC) $\text{La}_{0.50}\text{Sr}_{0.50}\text{CoO}_3$ is deposited in step (ii).

8. (previously presented) High-temperature solid electrolyte fuel cell according to claim 1 wherein a layer comprising substoichiometric strontium doped lanthanum manganate (ULSM) $\text{La}_{0.75}\text{Sr}_{0.20}\text{MnO}_3$ is deposited in step (ii).

9. (previously presented) High-temperature solid electrolyte fuel cell according to claim 7 wherein the solid content of the LSC coating solution is 12-14 mass %.

10. (previously presented) A process to provide a fuel cell comprising:
(i) applying electrolyte particles in a screen printing paste onto an unsintered electrolyte and sintering the thus produced structure,
(ii) depositing a nano-porous electrode thin layer by a sol-gel-process or an MOD-process on the structure obtained according to step (i) and the thermal treatment of the thus coated structure,

wherein the fuel cell comprises an electrolyte boundary layer on the structured screen printed electrolyte layer obtained according to step (i), which electrolyte boundary layer is applied by an MOD-process and has a thickness of 100 to 500 nm.

11. (previously presented) High-temperature solid electrolyte fuel cell according to claim 8 wherein the solid content of the ULSM coating solutions is 12-14 mass %.